Exploring Students' Transition into Experiential Entrepreneurship Education: Challenges and Learning

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ABSTRACT

Questions we care about: Experiential entrepreneurship education (EEE) is offered to an increasing spectrum of students, with a growing need to cater to more and more diverse backgrounds. While this provides opportunity for universities to contribute to entrepreneurial competences among graduates, the teaching format associated with EEE interventions poses many challenges for the learner. The nature of these challenges and how they relate to students' learning processes in EEE is not well-known. Accordingly, the paper poses the following questions: What challenges do students face in transitioning into EEE? How do these challenges relate to students' process of developing an understanding of how to take on learning in EEE?

Approach: The paper draws on social cognitive theory and previous work on learning in constructivist learning environments to propose a framework for studying students' transition into EEE as a process of (re-)constructing their expectations on curricular learning from entrepreneurial experience. Further, the dynamics of such a process is investigated through a qualitative case study of a project-based course in which students worked in teams towards generating, developing and validating business ideas through real customer interaction. Data was collected mainly through reflective assignments and retrospective interviews, and analyzed through a general inductive approach.

Results: Four critical learning cycles relating to perceived challenges was identified as students starting to engage in the course: *coming up with an idea*, *engaging externals actors*, *pivoting* and *managing openness*. These challenges seemed to be overcome as students gained new experience, re-shaping their expectations of the nature and purpose of such activities.

Implications: Acknowledging students' transition into EEE as a dual process of re-shaping students' ways of organizing their competences in relation to entrepreneurial processes and curricular activities opens for further investigations into the nature of challenges and learning processes when new students are coming into EEE. Moreover, the study highlights how scaffolded integration of entrepreneurial experience into curricular activities can challenge students' habitual roles and certain pre-conceptions of entrepreneurial processes.

Value/Originality: Through investigating challenges as students starts to engage in EEE, the study contributes to unveiling the dynamics of transitioning into such learning environments.

Keywords: entrepreneurship education, experiential learning, learning processes, learning environments

1. Introduction

Over the last decades, entrepreneurship education has been offered to an ever-increasing number of students, with a growing need to cater to more and more diverse backgrounds (Kuratko, 2005, Nabi et al., 2017). Moreover, experiential entrepreneurship education (EEE) is slowly becoming mainstream, fueled by research on entrepreneurial learning highlighting how entrepreneurs learn from entrepreneurial experience (Politis, 2005, Krueger, 2007), and calls to engage students in learning 'through' and 'for' rather than only 'about' entrepreneurship (Neck and Greene, 2011, Blenker et al., 2011, Mäkimurto-Koivumaa and Belt, 2016).

Although experiential entrepreneurship education holds promise as a way for universities to contribute to entrepreneurial capabilities, EEE is not without its challenges. Günzel-Jensen and Robinson (2017) outline three barriers to teaching effectuation in the undergraduate classroom, highlighting students' lack of prior experiences with similar learning activities, tensions regarding authenticity of school projects and legitimacy of process and instructors as inhibiting learning in experiential learning environments. Neergard and Christensen (2017) further investigate how EEE break the traditional routines that educators and students associate with university learning, and highlight how active use of new rituals can scaffold student learning in the transition to a new kind of learning environment. Such studies give a first insight into the challenges educators face in organizing EEE, and might also explain some of the complexity in arriving upon a clear understanding of what and how students learn in such learning environments.

Few studies, however, have explored these challenges from the students' perspectives. Accordinlgy, little is known about what challenges students experience when coming into EEE, why and to what effect. Acknowledging the fundamental assumption that experiential learning is a process of re-learning and re-construction of frames of references held by the learner built up through previous experience (Kolb, 2014), a lack of understanding of how students' experience coming into EEE inhibits our understanding of learning in such a transition. Although experiential learning theory (Kolb, 2014), which is usually drawn upon to discuss learning in EEE, conceptually grounds a process perspective on learning, the theory is highly de-contextualized and says little about what in the learner is being transformed through grasping and interpreting new experiences. So, how can we understand transitioning into EEE from a student learning perspective? What challenges do students face in transitioning into EEE? And, how do these challenges relate to students' process of developing an understanding of how to take on learning in EEE?

Laying some of the groundwork for a new process understanding of how students come into EEE, this paper draws upon social cognitive theory and previous work on learning in constructivist learning environments to explore this transition – and presents a qualitative case study (Merriam, 2009) of students' first experience of learning in an EEE environment. Focusing on how students' experience the course and the challenges they faced, the study attempts to identify critical learning cycles in their transition into EEE, unveiling what lies behind these perceived challenges, the dynamics of overcoming them, and the effect on student learning. Through the study, it was found that both students' initial expectations of entrepreneurial processes (as solitary, ingenious and linear) and of classroom activities (as usually steered by the teacher) formed a base for perceived uncertainty among students. Moreover, these expectations seemed to interact and manifested in four concrete challenges perceived by students: coming up with an idea, engaging externals, pivoting and managing openness. These challenges was overcome as students gained new experiences of subsequently seemed to re-shaped their ways of thinking about entrepreneurial processes and about their role

in the learning environment. This dual process of re-shaping students habitual roles and pre-conceptions of entrepreneurial processes opens up for discussion regarding how to scaffold students transitions into EEE environments.

The paper proceeds as follows; firstly, a conceptual framework for studying students' transition into EEE and learning in this process is outlined through reviewing previous work on EEE, learning in similar constructivist learning environments and social cognitive theory. Secondly, the methodology of the study, including the context in which the study was conducted, is described in detail. Thirdly, in the result section, four critical learning cycles emerging from analysis of the empirical material is described in terms of perceived challenges that students overcame – including antecedents (student expectations), learning mechanisms (activities and reactions) and perceived learning outcomes. The results are then discussed and related to the overall conceptualization of students' transition into the new learning environment as a process och re-shaping their way of thinking about entrepreneurial processes and classroom activities. Implications for theoretical understanding and practical organization of learning in the transition into experiential entrepreneurship education are discussed.

2. Students' transitions into EEE

Experiential education is generally considered to go beyond 'active learning' in the sense that apart from learners not being passive in the learning environment, learning activities in experiential education should be *i)* controlled by the learner, *ii)* involve the learner's whole 'self', and *iii)* correspond to 'real' activities and environments beyond the classroom (Boud, 1989). Accordingly, in experiential entrepreneurship education, the learner should get opportunity for first-hand experience of self-directed authentic entrepreneurial processes. Substantial work has been done in elaborating starting points for such educational initiatives in entrepreneurship, e.g. focusing on methods (Neck and Greene, 2011), entrepreneurship as an everyday practice (Blenker et al., 2011), or value creation (Lackéus, 2016). Broadly, such approaches are often discussed in terms of learning 'through' entrepreneurship (Kyrö, 2008).

Why experiential education? In general terms, active learning is thought to be, and has been at least somewhat proven, more effective as a way of organizing learning activities (Prince, 2004), through building motivation and encouraging deep-learning. Secondly, format of learning activities in entrepreneurship education also pertain to what is to be learned or developed (Mwasalwiba, 2010). While more traditional teaching approaches can build toward acquisition of existing well-established 'knowledge' – e.g. in the form of abstract principles – experiential learning is thought to support the development competences and higher-order thinking skills, linking theory to increasingly skillful action and to personal meaning-making structures (Middleton and Donnellon, 2014). Accordingly, experiential learning is usually deemed to be more in line with the purpose of entrepreneurship education, as it is often organized with an explicit ambition to impact and inform graduates' future career behavior, supporting innovation and economic growth inside or outside established organizations.

As experiential entrepreneurship education aims to provide learners with first-hand experiences of authentic entrepreneurial processes, EEE learning environments incorporates specific learning *activities*. Depending upon what starting point learning environments are designed from, and towards what student audience, these activities differ and can involve everything from learners taking on open problems with entrepreneurial methods (Neck and Greene, 2011) to the start-up of actual ventures as a part of curricular activities (Lackéus and Williams Middleton, 2015). One general common denominator seems to be an ambition to build in uncertainty akin to 'real' entrepreneurial processes (McMullen and Shepherd, 2006). Associated with such activities and the nature of problems and projects that students take on is

also a number of learning *practices*, i.e. ways of acting that support successful performance in EEE learning environments. For example, recognizing that successful performance in formal EEE learning environments should be governed by similar practices that support performance in entrepreneurial processes in general, effectuation (Sarasvathy, 2001) has gained traction as a way of thinking about how students competences and resources can be organized through EEE (Günzel-Jensen and Robinson, 2017).

Since these activities and practices are not necessarily aligned with previous experiences acquired and prior training undergone by students coming into EEE, students might not be instantaneously ready to take on the activities and practices and relate them to their habitual ways of working and learning (Neergaard and Christensen, 2017). This necessitates an understanding of how students can develop readiness to learn in EEE, i.e. their *transition* into such learning environments. This paper proposes a conceptual framework to understand and study such transitions, focused on the development of students' cognitive schemas as organizers of the way they take action in the new learning environment, see Figure 1. In the remainder of this section, the proposed framework is described through drawing on earlier work on learning in constructivist learning environments and on social cognitive theory.

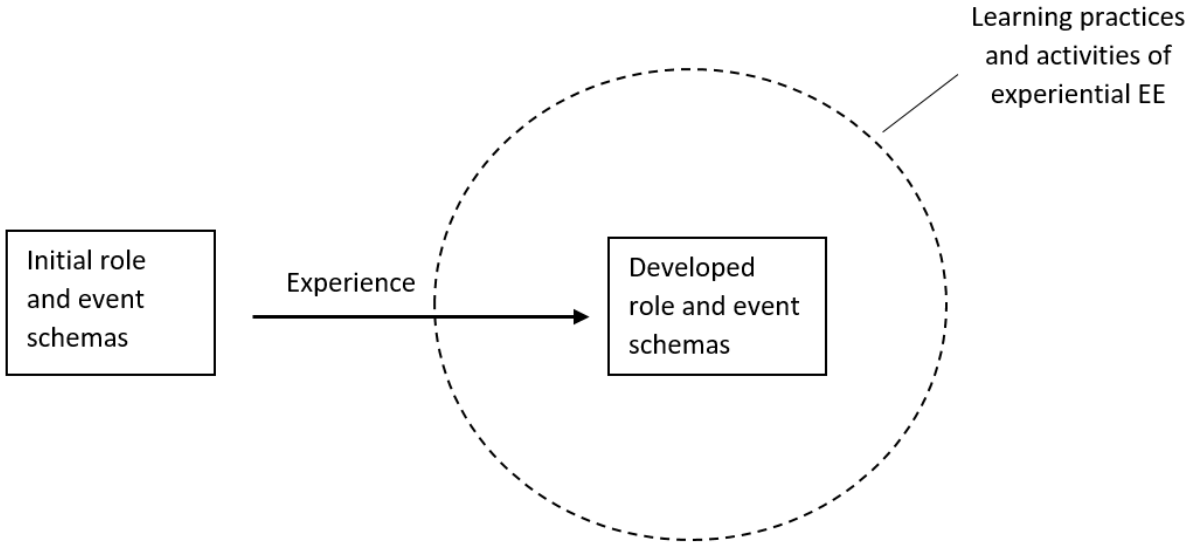

Figure 1: Conceptual model of students' transition into experiential entrepreneurship education as a process of developing role and event schemas applicable in the new learning environment

Although there are few studies of how students transition into EEE, there are several streams of research that can be drawn upon to discuss students' transition into similar learning environments. For example, research on constructivist learning environments (Jonassen, 1999), problem-based learning (De Graaf and Kolmos, 2003) and open-ended learning environments (Hannafin et al., 1999). Surveying this work, it seems well-established that the transition into such learning environments can pose substantial challenges for students, getting accustomed to self-direction and the uncertainties of acting rather than listening. The assumption is that these challenges can at least partly be understood in terms of not being used to taking the role of a self-directed learner, because most university training is based upon more traditional teaching formats.

Apart from not being accustomed to the type of action-taking required in such learning environments, it is usually recognized that novice learners lack relevant first-hand experiences to draw from when engaging formally with new phenomenon (Land and Hannafin, 1996). While experts have a host of experiences to draw from to sense-make events, novice learners

have not had opportunity to develop as well-ordered knowledge structures. Accordingly, when starting to engage formally with a new phenomenon, e.g. entrepreneurial processes, they are more prone to focus on surface rather than underlying aspects of problems and situations, and run the risk of misinterpreting events or not detecting that how they interpret a specific manifestation of a phenomenon might conflict with how they interpret a different manifestation of the same phenomenon. However, novice learners are not to be considered conceptually 'naïve'. Rather, "[l]earners possess a great deal of intuitive understanding and experience, but are often unaware of how they relate to formal domain knowledge" (Land and Hannafin, 1996) (p.39). Accordingly, successful transition into a new learning environment might be a question of organizing one's resources and competences to take on new situations and contexts rather than a question of acquiring completely new skills.

Subsequently, because of the discrepancies between students on the one hand students' habitual way of working and their expectations of the learning environment and on other hand the learning activities and practices necessary to successfully interact in the new learning environment, novice learners are bound to meet many challenges when coming into experiential learning environments. Accordingly, students first experience of such learning environments might be turbulent, and students can experience a lot of uncertainty and uneasiness before getting accustomed. However, through gaining new experiences and through strategic guidance by educators, learners can build new 'theories-in-action' that are more aligned with ways of working that are associated with successful performance in the new learning environment (Land and Hannafin, 1996). From an experiential learning perspective, this process can be conceptualized as a process of construction and re-construction of frames of references held by the learner (Kolb, 2014). Accordingly, learning is not to be viewed as transmission of pre-built knowledge which learners can assimilate, rather as development of a learners' ways of interpreting and subsequently interacting with the world – built up through the new first-hand experiences with specific phenomena.

Moving towards a process perspective on students' transition specifically into EEE learning environments, social cognitive theory as situated in entrepreneurial processes provides a way forward. Corbett and Hmieleski (2007) outlines how role and event schemas held by corporate entrepreneurs impact their behavior in entrepreneurial processes. Here, "[a] *role schema* is a cognitive structure or mental framework relating to how one's knowledge is organized about the set of behaviors expected of a person in a certain job, function, or role. An *event schema* is a mental road map: It describes the appropriate sequence of events in a well-known situation" (Corbett and Hmieleski, 2007) (p. 103-104). Considering the role and event schemas students attribute to EEE and how these develop and change as students start to engage in the learning environment provides a way to access how students develop situated knowing (Brown et al., 1989). As cognitive schemas are akin to mental models drawn upon to interact in certain environments, of particular interest to a process understanding of students transitions into EEE is how new experiences are framed in light of existing frames of references held by the learner, and how these new experiences might transform such conceptions.

Accordingly, students' transition into EEE is here conceptualized as a process of (re-)constructing the role and event schemas that students associate with EEE as they start to gain experience of acting and interacting in such learning environments. Turning to the second part of this paper, the dynamics of such a transition process is elaborated through an empirical investigation.

3. Methodology

In order to explore the challenges that students face in transitioning into EEE, the paper presents a qualitative case study (Merriam, 2009), investigating a group of students' first encounter with experiential entrepreneurship education. Focusing on the challenges that students faced through engaging in entrepreneurial experiences and connections with their role and event schemas – the study aims to highlight critical learning cycles in students' transition processes. Here, 'learning cycle' is used in the experiential learning terminology, i.e. relating to the grasping and transformation of new experiences relating to learners built up frames of references (Kolb, 2014). This way, the study is grounded in a process perspective of learning – encompassing learning antecedents, dynamics and outcomes (Grégoire et al., 2011). According to Kolb's learning cycle, such a process entails a learner gaining first-hand experience, observing and reflecting upon the experience, making abstract conceptualizations and generalizations from reflections and testing the implication of these conceptualizations in practice through experimentation, see Figure 2. Of particular interest to this empirical investigation is such learning cycles where students seem to question their initial assumptions and change their conceptualizations accordingly.

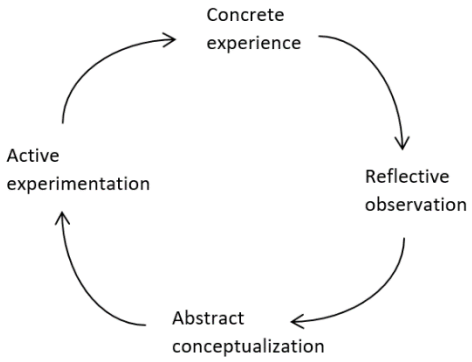

Figure 2: Kolb's learning cycle, recreated from Kolb (2014, p. 51)

The study applies a learning pathway approach (Wallin et al., 2017) to identify such learning cycles. This methodology aims to analyze students' experience in terms of pathways, encompassing starting points, process dynamics and outcomes. Fundamentally, it is an inductive methodology, grounded in how students' experience different activities and aspects of the learning environment. Similar to realist evaluation approaches to unravel the dynamics of learning processes (Maxwell, 2004, Wong et al., 2012), the methodology seeks to highlight the interplay of learning context and learning mechanisms in order to understand the outcomes of complex interventions. Thereby moving closer to an understanding of "What works, for whom, in what circumstances, in what respects and why?"(Wong et al., 2012) (p. 93).

3.1. Study context – course design and student sample

The case in question, a B. Sc. course in entrepreneurship and business development (7.5 hec) at a Nordic university of technology, engaged students in teams working towards generating, developing and validating business ideas through actual customer interaction. A six-week project undertaken by the student teams formed the main learning sequence in the course design. During the project, weekly four-hour workshops were used to introduce a re-worked version of the Lean Startup methodology (Ries, 2011), including aspects of customer development (Blank, 2013) and effectuation (Sarasvathy, 2001). During these workshops, students were introduced to concepts, models and examples – often incorporating exercises in which they related the models to their own project process. Apart from the workshops, students

were also given team-based supervision twice during the project duration. During workshops and supervisions, students were often given advice on ways of thinking about their process, ways of taking on specific activities, and pointers on potential external stakeholders to contact.

Although the course project was fundamentally designed to be iterative, in an introductory phase extra focus what put on business idea generation during the weekly workshops. In later stage of the process, extra focus was put on packaging business ideas in minimum viable products and pitching. Between the weekly workshops, students were to work on their project through contacting potential customers or stakeholders connected to their business ideas, inquire into their situations in order to understand them better and get feedback on their emerging business ideas. With this feedback in hand, students were to update their business hypotheses, and whenever necessary adapt their proposed concept, change their customer segment or completely shift away from a non-viable idea. All such changes were discussed under the term 'pivoting', and was highly encouraged by the facilitator of the workshops. The project was presented in a half-way report, in a final project report, and at a panel pitch where students received feedback from invited guests.

The project-phase of the course was complemented with an introductory week, setting the stage for the project, and a week of de-briefing mostly spent on facilitating final reflections on the project process. During the course, students were tasked with completing three individual reflection tasks – relating the experience they gained to concepts introduced and to the learning goals of the course. In these assignments, students were to evaluate their level of competence in relation to learning goals, evaluate their performance, set up areas for improved performance and finally formulate learning strategies to reach these goals. For the two first such assignment, students were given extensive formative feedback, most often asking them to elaborate certain aspects of their argumentation and asking them to draw more explicitly from experiences gained in the course.

The course had 35 third-year bachelor students, all new to experiential entrepreneurship education. The course was mandatory at their study program, and accordingly the students had similar prior training at university. While the study program did have a business focus, this was the first course explicitly relating to entrepreneurship. Most students stated not having very specific expectations going into this specific course in comparison with other courses and generally claimed to have little previous formalized understanding and little previous experience of entrepreneurial processes. However, there was somewhat of a spectrum of previous experience, with some students having taken an entrepreneurship course in upper-secondary school and a handful having actual small-scale venture experience. When discussing expectations and the spectrum of perceptions amongst the students going into the course, one student expressed that:

> "I hope this course can give everyone the opportunity to develop their entrepreneurial competence, and not only encourage those that already see themselves as entrepreneurs"

3.2. Data collection and analysis

Extensive empirical material was collected over the duration of the course to follow how challenges in students' learning processes unfolded, see Figure 3. The main empirical base consists of 8 retrospective interviews conducted 5-7 weeks after the course, and the three sets of individual reflection assignments (described above) collected from every student at the beginning, middle and end of course. The interviews focused on gaining an overall picture of how the course was experienced by students, what aspects of the course seemed central and challenging in students' experiences and teasing out details around specific written reflections. The interviews were semi-structured organized loosely around emerging findings from

readings of the respondents' individual written reflections. Supplementary data was collected in the form of observation field notes of questions and concepts discussed in workshops and during supervision, workshop data in form of concepts maps produced by students (visualizing their learning journeys and experiences of uncertain situations), team status charts and group assignments to track how students' idea development processes progressed and evaluation comments supplied by students in the beginning, middle and end of course.

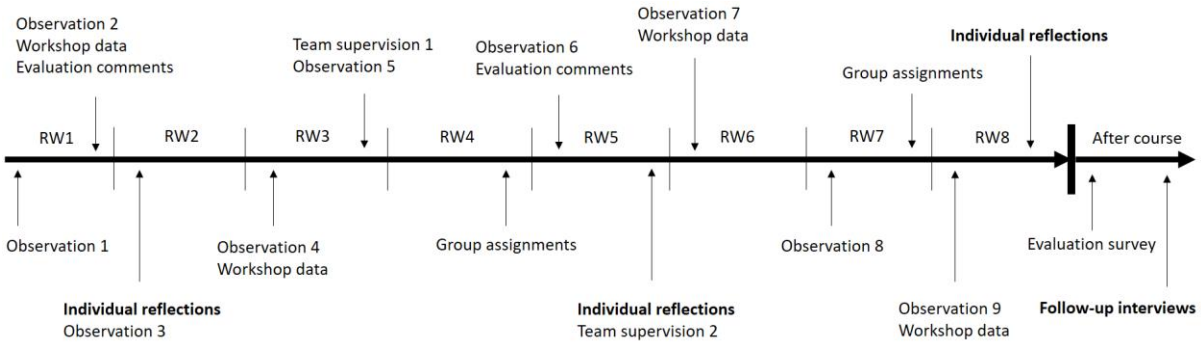

Figure 3: Data collected during and after the eight reading weeks (RWs) of the course. Main empirical sources in bold font

Data was analyzed using a general inductive analysis approach (Thomas, 2006). Accordingly, the entire empirical material was firstly subjected to thorough listenings and (re-)readings. Secondly, key meaning-bearing quotes were extracted to highlight emerging themes illuminating critical learning cycles in students transition into the learning environment. In this stage, quotes were extracted primarily from the retrospective interviews, being the narratively richest data source. This was followed by a systematic combination and re-combination of quotes in order to arrive upon an overarching categorization, aiming to reach a parsimonious representation of critical learning cycles emerging from the data.

4. Findings

Four critical learning cycles was identified with a starting point in challenges as perceived by students in their transition into the learning environment: *coming up with an idea*, *engaging externals*, *pivoting*, and *managing openness.* In discussing these challenges, students frequently related to their role as students in this course as opposed to other courses and their thinking about entrepreneurial processes. Accordingly, the four challenges are here conceptualized as relating to the process of (re-)shaping students' role and event schemas related to engaging in EEE, as depicted in Figure 4.

The four challenges and how they played out in students' learning processes is described in detail below, using mainly quotes from the retrospective interviews with students 1-8, as they looked back upon their experience. A few excerpts from students' initial reflection assignments (RA1) are also used. The four challenges and the learning cycles they represent are not to be taken as separate. Rather, they seem highly intertwined and all relate to the overall process of 'getting' how to take on the learning activities.

4.1. Coming up with an idea

A number of things seemed to cause uncertainty for the students as they started to engage in the course. Relating to the nascent stages of their project processes, some students seemed uneasy with not knowing the focus of the project, as it was dependent on them generating an idea to start from:

> "Everyone was a bit skeptic in the beginning; 'We are going to come up with an idea and work on it for six weeks'. In all other projects you do, you assume that the idea is very well thought-through. Usually, you have a question and a background." (Student 4)

> "It was uncertain because you were supposed to come up with an idea. And I felt like; 'I don't have any ideas laying around'." (Student 7)

A very common worry amongst students seemed to be that coming up with an idea takes a lot of creativity, and a sense of not having the creativity that it takes.

> "For me, the harder thing is the creative parts" (Student 2, RA1)

However, as students engaged in idea generation exercises and started to work on their projects, all groups found a starting point. Reflecting upon this, one student noted that idea generation could be a more collective and structured endeavor than expected:

> "When you really sit down together and brainstorm you can get a lot of ideas. It is something you can do as a collective. You don't just say 'See you in two weeks and we'll see if someone has had a good idea'. Or 'I will just get an idea eventually, it will come to me sooner or later like a rock in the head'. […] I take away how to work in a structured way with creativity. That creativity is not something that you have or not have, but something you can work on" (Student 6)

Another student reflected upon having re-shaped the thinking about what creativity is:

> "Creativity for me has been to be artsy. And I haven't seen myself in that way. Or that you manually build things. Now, I think about creativity more as inventiveness" (Student 7)

Reflecting upon the role of the idea in entrepreneurial processes, another student noted that students came in with rather different expectations of the course activities and that everyone might have gotten an eye-opener about the role of initial ideas in the entrepreneurial process:

> "You don't have to have a perfect idea from the beginning, and also – it is not enough to have a perfect idea from the beginning. […] If you think that you got it from the start, then you might think that it is easy. Others thought it was impossible. We all got a compromise between the two" (Student 2)

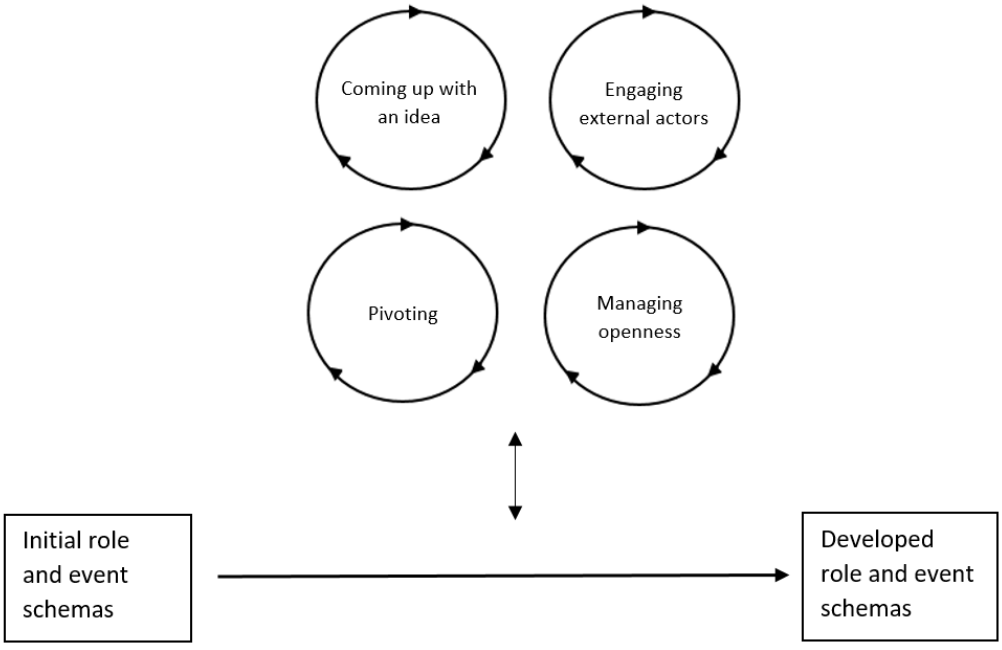

Figure 4: Four critical learning cycles in students' transition into the learning environment

4.2. Engaging externals

Another aspect of the learning environment which seemed to cause distress for the students was the fact that they were to engage with external stakeholders which they themselves were tasked with seeking out:

> "I was skeptical in the beginning. […] There was a lot of talk about us having to go out and contact people. To go out of our comfort zone. And it wasn't just me who thought the course was heavy in the beginning. You felt; 'Do you really need to contact companies?'. You thought; 'how can I get out of this?'. (Student 6)

> "I thought about lying and saying that I had done it" (Student 3)

Several students expressed doubt around their abilities to communicate with external actors, and almost all students a general uneasiness with such activities:

> "I sometimes get nervous when I am going to talk in front of people or with people I don't know" (Student 9, RA1)

Moreover, such activities were deemed as not usually part of curricular activities, and usually not a necessary part of school project work:

> "We have had project work before, but it is not often that you approach someone external and ask them for help" (Student 1)

> "We haven't had anything similar in our program so far, where you need to look outward. Where you have to email or call companies and so on" (Student 5)

Apart from a general uneasiness and being unaccustomed to external contact, some students also talked about the specific circumstances of contacting externals as a part of their nascent idea development process. For example, for some students it was accompanied by a sense of just using someone (the external actor) who did not get anything in return. Another student noted:

> "You are afraid that you will contact a company with something that feels a bit lame. When I'm at my job, I am proud of what I do. In the course, we had a half-finished idea, and it didn't feel nice to call someone and talk about that." (Student 6)

However, as students started to engage externals, their initial expectations of this contact did not seem to be met which several students seemed surprised with:

> "I was happily surprised that we got so many answers. People were nice, open" (Student 2)

> "I learned how to contact companies and other people, that it was so simple, that people were so open. You feel that there is support out there, I did not expect that" (Student 5)

Several students accredited these positive responses and their surprise to themselves being soon to be graduated going into a thriving construction industry, and that companies might be genuinely interested in representing themselves in a good way as potential future employers. However, some also talked about their initial thinking about the purpose of contacting externals having impacted their attitude towards engaging in such activities. For example, one student noted an initial expectation of external contact being only about explaining and subsequently selling a finished product you already believe in, and valuing the customer response accordingly:

> "My initial feeling was that if I talk to people that are not up to speed with what I'm talking about, they will not understand. I pictured that you have a product and a user manual, and

> that in itself would be the incentive for people to want to have it. […] I pictured that you create something and then sell it, rather than that you try to understand and then adapt. The value in talking to people doesn't have to be that they understand the product, but rather that it builds an understanding of the customer" (Student 4)

Elaborating on the same statement, the student explicitly relates to a mental model of how entrepreneurial processes play out when explaining the initial expectation and attitude towards external contact and inquiry:

> "You usually see a company and their products, and focus on the product. And you start thinking that the nature of the process is that the product comes first" (Student 4)

Another student also touches upon expectations of entrepreneurial processes when describing an initial skepticism about engaging externals – relating inquiry to the ownership of ideas:

> "You should have had a good understanding of that if you don't know something, you just ask. But in this specific context it felt like a new perspective. You have felt as though it should come from you, from the inside, rather than coming from the outside. That it needs to completely my or our idea. So, it was new that you can get input and develop our ideas, but also that we were encouraged to do so" (Student 6)

4.3. Pivoting

Yet another element of the course design that students expected to struggle with at the outset of the course was that they might have to pivot during the process, especially when it meant letting go of their 'own' ideas:

> "I often get stuck in a certain idea and find it difficult to look past it to develop it further or pivot the idea" (Student 2, RA1)

> "It will be hard to have to let go of an idea you are personally happy with to realize that it is not something that the market wants" (Student 10, RA1)

Several students also associated the expected challenge of pivoting on the basis of others' input with generally finding it difficult to deal with criticism and feedback:

> "In general, I've had a hard time dealing with receiving feedback. I don't know why, maybe you take it personally, maybe I'm a sensitive person. (Student 8)

Apart from personal connection to the idea, and the prestige associated with that, several students related to a general feeling of wanting to be in control and that pivoting could be a discontinuous event that changed everything:

> "I am a bit of a control freak. I like planning, structure, routines. Then, I know what I'm doing, I'm in control. It's hard for me when things get turned on its head." (Student 7)

However, as their project processes progressed, the way students viewed letting go of ideas seemed to change to focus on the positive aspects of moving on – especially highlighting how they felt new ideas were based on more solid arguments, better research and more external validation:

> "Pivoting felt only positive. We felt surer about what we were doing, we had more solid ground to stand on" (Student 7)

> "After a while, you know that something better will come out of pivoting" (Student 1)

> "The longer the course went on, the more we based our decisions on other peoples' perspectives. In the beginning it was more our own thoughts" (Student 1)

However, even though some of the initial worry about letting go of ideas seemed to fade as students transitioned into the learning environment, pivoting did not necessarily become straightforward and unproblematic. Rather, many acknowledged pivoting actually in some ways became harder as the course progressed, because you had invested more time, energy and though into your concept:

> "In the beginning, things moved pretty quickly. In that phase we did not think that our ideas would actually be feasible. It was worse when you started to get feedback on a more thought through concept. Then, it was more difficult to change one's mind" (Student 4)

And, that the feeling of connection to one's 'own' ideas in the group work did not necessarily go away:

> "I liked my idea. Maybe it wasn't better, but it was mine." (Student 6)

Another student noted that even though being open for pivoting late in the process was encouraged by the teachers, it was difficult to do so when the group had reached a point where they felt they could pass the course with their current concept:

> "People got scared of taking it forward. We had done everything we need, we had solid ground to stand on. If you had kept on, you could have reached a setback. I think people settled, you didn't want to have to change your idea the week before deadline" (Student 2)

While another student, whose group did a radical pivot in the last weeks of the project noted that it felt good even then:

> "I thought it [changing idea late in the process] felt good, I liked the new idea better. It was not as messy, fewer different parts, easier to actually implement" (Student 8)

Nevertheless, students seemed to have reshaped their initial thinking around pivoting signifying having initially been wrong, to rather focus on how it shows willingness to learn and to keep on going:

> "We pivoted a lot, we had to change things quite often. But it did not feel as a failure. […] It shows that you have energy and drive to keep on working" (Student 3)

> "I take away thoughts about pivoting, to not see it as a mistake but rather as a learning process. You need to be prepared that things will change, and get used to changing your mind now and again." (student 7)

Relating to initial challenges with actually taking in feedback from others and trying to adapt ideas accordingly rather than valuing the response as wrong or right, another student added:

> "You realize after a while that the development process is not right or wrong, it is just not finished" (Student 4)

Apart from relating to the role of pivoting in entrepreneurial processes, another student noted that changing ideas was not usually a part of their curricular activities, and that the demands put on their deliverables are not usually aligned with changing focus during the project – comparing the course under study in this paper to a similar project course:

> "In this course, you went in with one idea and came out with another. […] There was a lot of this, and big differences between the pitches in week 5 and week 7 […] We had a similar project course last year also, but there was a lot of focus on the result in that course. We spent two weeks in the beginning on finding an idea. It was not explicitly said that you couldn't change your idea, but when you [teachers] pose very specific demands on the end product you are steering how we will structure our project work" (Student 6)

4.4. Managing openness

The fourth and final main challenge that students perceived at the outset was to manage the openness and unstructured nature of the project:

> "We were to do a large project for a longer period, and you didn't know exactly what to do" (Student 2)

> "Some people thought it was a bit fuzzy in the beginning." (Student 7)

Several students described how this openness was not what they were accustomed to in curricular activities:

> "We have worked a lot in projects before, but always been provided with clear guidelines. This turned out different, it was open for us to decide and imagine. Usually, you have more clear frames to fit into" (Student 4)

> "A whole new way of working, not as steered [by the teacher]. It wasn't 'You are supposed to reach this point', but rather 'Do as much as possible'" (Student 2)

One student noted that acting on openness are usually even discouraged because the problems usually introduced are not open:

> "If you take own initiatives and decisions in the other course, then it might not turn out the way that the teacher wanted. But in this course, there were so many ways to take on the problem" (Student 1)

Not knowing exactly what to expect, some students stated that their need for control and predictability might hinder them in their projects. However, as their project progressed, the openness of the process did not seem as daunting to students as some had expected:

> "It was easier to let go of the planning than I thought it would be" (Student 2)

Several students even seemed happy with getting the opportunity to do something more self-directed:

> "You are used to being an employee and having a clear role. Here, you got to take on the responsibility for something yourself, and that was fun. I liked it, it was challenging and exciting" (Student 7)

In general, the students seemed to take away a sense of better being able to manage unpredictable situations:

> "Now, have become better at not having foresight in the same way. It is about getting accustomed to that you cannot always control your environment" (Student 2)

> "Take away a new way of working with unknown things. Before, you felt that it was scary when things were unknown, that you had no control over it. But you learned to deal with that to some extent" (Student 8)

One student noted that managing uncertainty can be about seeking input from others, and therefore left with a more positive view of openness and freedom to operate:

> "You have associated entrepreneurship and uncertainty, a lot of uncertainty. But, you realized after a while that you kind of liked it. That it is rather exciting to search here and there for new solutions and answers together with others. It is very much about interaction with others, and that is something that I like. I have believed that I want more security, but now I realized that I liked having more freedom. I think I could be my own boss sometime in the future" (Student 7)

5. Discussion

Through the empirical investigation, four critical learning cycles in students' transition into EEE was highlighted – starting from challenges that students faced in coming into EEE. These learning cycles connect students' experiential learning processes to their transition through considering how the grasping and transforming of new experiences into abstract conceptualizations interact with the construction of students' role and event schema associated with EEE.

Focusing specifically on the transformation of initial event schema held by students, it seems that students can enter EEE with the expectation that entrepreneurial processes are solitary, ingenious and linear endeavors. Solitary and ingenious in the sense that it concerns the realization of ideas that stem from and belong to specific creative individuals, rather than being the result of prolonged interactions. Linear in the sense that these ideas just 'comes' to certain creative people and then is to be completely developed to products before engaging customers and trying to sell to them, rather than being developed through increasing understanding of problems and adaption to customer needs.

When focusing the transformation of role schema held by students, relating to the nature of prior curricular learning environments seems to be a relevant starting point – as discussed in previous work (Neergaard and Christensen, 2017). In this particular case, even though students had had several project courses before they did not relate to any previous curricular experience in line with the definition of experiential education applied here, i.e. being controlled by the learner, involving the learners whole 'self' and being akin to 'real' practice (Boud, 1989). Rather, students mainly highlighted differences between their experience of the EEE learning environment and earlier courses. For example, noting that the activities and practices espoused in the EEE learning environment was not usually designed into their curricular activities, and even discouraged through closed problems, result-focused assessment and teacher centered processes.

From such starting points, it is no wonder that students perceived it as challenging to start engaging in the learning environment. When viewing entrepreneurial processes as linear and expecting very clear demands to be put on their course deliverables, 'coming up' with an idea to work on for six weeks can be perceived as a crucial make or break moment rather than a first small tentative step towards focusing one's attention. Similarly, engaging externals can be perceived as an either/or encounter, issuing a clear yes or no in terms of external validation, rather than a step in developing one's understanding through interaction and subsequently developing one's concepts. Likewise, pivoting can be perceived mainly as having been mistaken and managing openness as an insurmountable task in a thought-world where things are supposed to be simply right or wrong and someone else already knows the answer.

In part, these conceptions of entrepreneurial processes and curricular learning environments seemed to initially hinder students to engage in learning activities. As they were challenged and re-constructed through new experiences and interaction in the new learning environment, this seemed to open new ways of acting for students – turning what was considered initially somewhat impossible by some students slightly more doable. Accordingly, students did not necessarily need to develop entirely new 'knowledge' or 'tools'. Rather, they had to find ways to organize their resources and competences in the face of a new learning environment, i.e. learning to use the tools and knowledge they already possessed. It seems that tasking students with coming up with ideas, managing openness, engaging externals and pivoting holds potential for being fundamental challenges for *both* their built-up roles and expectations of

being a student *and* their conceptions of entrepreneurial activity – and subsequently provides an opportunity to develop a new way of organization of their competences.

Acknowledging students' transition into EEE as a dual process of reshaping initial role and event schema associated with curricular learning from entrepreneurial experience opens for several implications for future research and for educational practice.

Firstly, many questions remain as to how students transition into EEE. In the particular case studied here, four learning cycles were found critical. Future investigation should elaborate on what challenges students perceive and consequently learning cycles that might be critical for student learning in other contexts, when designing EEE with other activities and problems. Moreover, beyond the scope of this paper is to closer study the dynamics of each learning cycle, e.g. investigating more thoroughly how students can overcome initial barriers of seeking out and engaging external actors even though they are in very nascent stages of idea formation. Such an investigation could also consider in more detail the effects of 'cognitive modeling' undertaken by educators as they introduce new concepts, draws students' attention to reflection upon specific events and attempts to guide their sense-making attempts (Dennen and Burner, 2008). The learning strategies espoused by the teachers in this particular context included seeking out feedback, testing hypotheses, being open to let go and re-direct attention. Such strategies are aligned with viewing entrepreneurial processes and idea development as dynamic and emerging, rather than fixed and ingenious. Of course, interactions among students and between teachers and students with a starting point in these strategies, and the methods they were manifested in, are bound to impact the way in which students (re-)construct their mental models. Accordingly, future investigation could engage even more explicitly with the social dynamic of re-constructing cognitive models that inform action.

As stated earlier in this paper, substantial work has been done to guide the design of EEE learning environments in terms of proposed starting points for *activities* to engage students' in, and elaborating on the extent to which these activities can be taken as granting access to authentic entrepreneurial experience (Neck and Greene, 2011, Blenker et al., 2011, Lackéus, 2016). A fruitful future stream of research connected to this would be concerned with more explicit formulation of the learning *practices* relevant for EEE, i.e. the ways of working and learning that should be supported in students and that are associated with coherent and purposeful action in entrepreneurial processes. Potential starting points for such an articulation could be found for example in the nature of entrepreneurial problems and processes, e.g. relating to the conditions of action under uncertainty (McMullen and Shepherd, 2006), and in the nature of expertise, e.g. drawing upon the theory of effectuation (Sarasvathy, 2001).

As acknowledged in some of the learning cycles discussed here, there is inherent tension and emotionality in the activities that students found challenging, also indicated by several previous scholars (Lackéus, 2014, Corbett and Hmieleski, 2007) – for example contacting externals and letting go of ideas one is committed to. Accordingly, it cannot be assumed that these activities become completely unproblematic as a learner develops more well-structured ways to organize his or her competences to take on entrepreneurial situations. Rather, through the study it is highlighted how learners through (re-)constructing role and event schemas can organize their resources and capabilities in a more effective way to take on such challenges – and the importance of starting to act more purposefully precisely because the activities are inherently challenging. Future studies should investigate further what aspects of the challenges that students face in EEE can be considered inherent to entrepreneurial activity and what aspects can be attributed to students' ongoing transition into EEE.

In terms of practical implications, critical learning cycles can be seen as a way to access students lived experiences when they are coming into EEE, starting from where the students are in order to build towards effective learning (Biggs, 1996). In understanding the challenges students perceive, we as educators gain important insights on how to guide students' attention when reflection upon their practices and experiences. Acknowledging that some challenges stem from both role and event schemas initially held by students, educators need to draw both on relevant models and methods of entrepreneurial processes *and* explicitly on models and concepts regarding the design of the learning environment when helping students to sense-make experiences. Discussing the roles that students are expected to take on and expectations that will be put on them in taking these roles seems crucial – for example relating to how demands on their course deliverables (assessment) are designed to be aligned with the learning practices espoused in EEE. Of course, this needs to be coupled with the design of a learning environment in which such strategies are applicable, encouraged and rewarded. Discussing the nature of such design and assessment goes beyond the scope of this paper. However, if taking seriously the students' perspective expressed in this study, assessment might need to be less focused on project results and more on process learning and the way in which students develop their ways of working and organizing.

6. Conclusion

In their first encounter with experiential entrepreneurship education, students face a number of challenges in starting to engage in activities and practices they are not accustomed to. This paper presented a framework for how these challenges can be understood and studied from a learning process perspective. In the proposed framework, students' transitions into EEE are conceptualized as a process of (re-)shaping students' ways of organizing their competences in relation to interacting in EEE learning environments to build increasingly coherent and purposeful action. Through drawing on social cognitive theory and previous work on learning in constructivist learning environments, students' progression towards skillful action in EEE was discussed in terms of development of role and event schema students associate with curricular learning from entrepreneurial experiences. Empirically, this process was studied in terms of critical learning cycles in students' transition into a particular EEE learning environment – focusing on how students overcame initial challenges by grasping and transforming new experiences.

Acknowledging students' transition into EEE as a dual process of re-shaping students' ways of organizing their competences in relation to entrepreneurial processes and curricular activities opens for further investigations into the nature of the challenges that students face when coming into EEE. Moreover, it highlights a need to better articulate learning practices associated with coherent and purposeful action in EEE learning environments. Finally, the dual process of transitioning into EEE provides guidance to educators in their endeavors to support students in their first encounter with experiential entrepreneurship education.

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